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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HUSSAIN, IMAD

ART UNIT

PAPER NUMBER

2151

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,358	Applicant(s) FARLEY ET AL.	
	Examiner IMAD HUSSAIN	Art Unit 2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,8-10,12,13,16-19,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,8-10,12,13,16-19,21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed 22 February 2008 has been received and made of record.
2. Claims 3, 6-7, 11, 14-15, 20 and 23 have been cancelled. Claims 1, 2, 4, 5, 8-10, 12, 13, 16-19, 21 and 22 have been amended and are pending in application 10/549358.
3. The amendment to the specification obviates the previously raised objections to the specification. As such, said objections are hereby withdrawn.
4. The amendment to the claims obviates the previously raised claim objections. As such, said objections are hereby withdrawn.

Response to Arguments

5. Applicant's arguments filed 22 February 2008 have been fully considered but they are not persuasive.

Applicant argues that applicant's invention features the information-collating module being separate from other modules, which provides certain beneficial features, and that such is not taught by Ahuja or by Al-Ghosein.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Ahuja discloses a module with information-collating features in a client-side load-

balancing system. Al-Ghosein discloses that an information-collating module (“data store”) may be separate from (albeit logically connected to) the module implementing the load-balancing engine. The two, taken together, render the claimed invention obvious.

Moreover, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant additionally argues that the limitation of redirection based on loading information is not taught by Ahuja.

In response to Applicant’s argument, Ahuja clearly states that requests are routed “based on dynamic performance data” (which explicitly includes “server load”) and that requests are redirected “to an alternate server if the selected server is not responsive” (where it is obvious that the determination of responsiveness is obtained from the collected data) (Ahuja: Column 5 Lines 12-20). Ahuja also makes constant mention of load-balancing throughout.

Applicant further argues that the limitation of “loading information associated with the modules” is not taught by Ahuja.

In response to Applicant’s argument, Ahuja states that the client agent “collect(s) dynamic performance data, e.g., network conditions, **server load**, and other server site-

specific information” (Ahuja: Column 5 Lines 12-20, emphasis Examiner’s). This clearly constitutes **loading** information associated with the **server** modules.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim states the limitation of “receiving at **a control intermediary the first module**, an indication...” The claim language is unintelligible as it is unclear whether the indication is received at the control intermediary, the indication is received at the control intermediary, or the first module and an indication are received at the control intermediary. For the purposes of examination, the aforementioned limitation will be interpreted as “receiving at a control intermediary, an indication...”

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 7-9, 11, and 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja et al (US PAT 6175869) (hereafter referred to as Ahuja) in further view of Al-Ghosein et al (PCT WO 00/10084).

Regarding claim 1, Ahuja discloses *a method of managing service requests from a first module acting as a client module, to a plurality of other modules acting as server modules, the method comprising:*

receiving at an information-collating module ("client agent"), from each of the other modules ("servers sites"), an indication of the operational status of each of the other modules, said operational status comprising the loading information associated with the modules ("dynamic performance data, e.g., network conditions, server load, and other server site-specific information", column 5, lines 11-16);

receiving at a control intermediary ("client agent") an indication of the operational status of each of the other modules ("dynamic performance data, e.g., network conditions, server load, and other server site-specific information", column 5, lines 11-16),

selecting by the control intermediary of one of the other modules for directing a service request to based on the indications of operational status of the other modules (column 5, lines 16-18); and

a control intermediary repeating the step of selecting one of the other modules for directing a service request to, so as to identify an alternative other module, in the event that the transmission of the service request to the selected module fails ("detects

non-responsive servers and transparently redirects requests to other replicated servers in the server pool", column 3 lines 11-12).

Ahuja does not explicitly disclose that the control intermediary receives status information *from the information-collating module* (as both receiving and collecting functions are contained in and performed by a client agent).

However, Al-Ghosein discloses that the control intermediary receives status information *from the information-collating module* (a collective metric data store (504) that collects consolidated metric data from server sites and makes said data available to a load balancing engine (62), page 22, lines 7-8).

Ahuja and Al-Ghosein are analogous subject matter in the same field of endeavor as both cover load balancing and fault tolerance at a device or devices located at or between a client and a plurality of servers. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the client side agent taught in Ahuja with the separate load balancing engine and metric collector taught in Al-Ghosein because doing so "provides a dampening of variance typical in processing metric data" (Al-Ghosein, page 3, line 35 - page 4, line 1) and allows for multiple load-balancing engines (Al-Ghosein, page 23, lines 7-8). Ahuja also states that the client agent "utilizes additional information received from an entity associated with the server pool" (Ahuja, claim 1), suggesting by this separation of elements the desirability of such a modification. Therefore, the claimed invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 7, the combination of Ahuja and Al-Ghosein discloses a method according to claim 1, in which the control intermediary selects the one of the other modules on the basis of the loading of the modules (Ahuja: “avoidance of overload conditions at various servers, and to provide load balancing, i.e., distribution of the total load offered to the web site among the available servers in a way that is deemed efficient by the provider”, column 10, lines 22-26).

Regarding claim 8, Ahuja-Al-Ghosein discloses that a method according to claim 1, in which the control intermediary periodically polls the information-collating module to obtain the indications of the operational status of the other modules (Ahuja: the information-collating module “periodically collects information about the load offered to each server in the pool by contacting the corresponding server agent”, column 12, lines 30-33).

Regarding claim 9, the claim comprises the same limitations as discussed in claim 1. The same rationale of rejection is applicable.

Regarding claim 11, the claim comprises the same limitations as discussed in claim 3. The same rationale of rejection is applicable.

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Regarding claim 16, the claim comprises the same limitations as claim 8. The same rationale of rejection is applicable.

Regarding claim 17, Ahuja-Al-Ghosein discloses a system according to claim 9, in which the other modules are Web service servers (Ahuja: “a client request directed to a web site or other service”, abstract).

Regarding claims 18-19, the claims comprise the same limitations as discussed in claim 1, respectively. The same rationale of rejection is applicable.

Regarding claim 21, the claim comprise the limitations of claim 9. The same rationale of rejection is applicable.

Regarding claim 22, the claim comprise the limitations of claim 12. The same rationale of rejection is applicable.

3. Claims 2, 4-5, 10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahuja in view of Al-Ghosein as applied to claim 1 in further view of Stricek (*A Reverse Proxy is A Proxy By Any Other Name*) (hereafter referred to as Stricek).

Regarding claim 2, the combination of Ahuja and Al-Ghosein discloses a method according to claim 1 *in which the first module comprises a client application* (e.g., “web browsers”, column 8, line 16) *and the control intermediary* (“client agent”, column 5, line 11), *the method further comprising:*

receiving at the control intermediary a request for a Web service description (abstract) from the client application (e.g., “web browsers”, column 8, line 16), *and selecting one of the other modules to direct the request to based on the indications of operational status of the other modules* (column 5, lines 16-18);

the control intermediary receiving (column 5, line 18) *the requested Web service description (abstract) and passing the description to the client application* (column 5, lines 18-19).

Ahuja-Al-Ghosein does not explicitly disclose *substituting an identifier of the control intermediary into the description* passed to the client application.

However, Stricek teaches the process of *substituting an identifier* (“reference”) *of a control intermediary* (“reverse proxy”) *into the description* passed to the client application (“client”) (page 4, lines 8-13).

Ahuja-Al-Ghosein and Stricek are analogous subject matter in the same field of endeavor as both cover load balancing and fault tolerance across a server pool by means of an intermediary control module. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the client side agent taught in Ahuja-Al-Ghosein with the identifier substitution taught in Stricek because doing so creates a single point of access from the client’s point of view (Stricek, page 1, lines 28-

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29) and further allows for eliminating the duplication of hardware (Stricek, page 2, lines 9-10). Ahuja-Al-Ghosein also states that the client agent may be treated as a proxy (Ahuja, column 8, lines 23-25) and further that the client agent may be used with proxies (Ahuja, column 8, lines 34-35), suggesting the desirability of such a combination.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made.

Regarding claim 4, the claim comprises the same limitations as those discussed in claims 1 and 2. The same rationale of rejection is applicable.

Regarding claim 5, the claim comprises the same limitations as those discussed in claims 1 and 4. The same rationale of rejection is applicable.

Regarding claim 10, the claim comprises the same limitations as discussed in claims 2. The same rationale of rejection is applicable.

Regarding claims 12 and 13, the claims comprise the same limitations as those discussed in claims 4 and 5, respectively. The same rationale of rejection is applicable.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IMAD HUSSAIN whose telephone number is (571) 270-

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3628. The examiner can normally be reached on Monday through Friday from 0800 to 1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IH/

Imad Hussain

Examiner

/Salad Abdullahi/

Primary Examiner, Art Unit 2157